

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/567,938A
Source: ILFWP
Date Processed by STIC: 11/15/2006

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 11/15/2006

PATENT APPLICATION: US/10/567,938A

TIME: 11:14:36

Input Set : A:\211050011U2.txt

Output Set : N:\CRF4\11152006\J567938A.raw

4 <110> APPLICANT: Rowe, Peter S. N.
 6 <120> TITLE OF INVENTION: REGULATION OF TISSUE MINERALIZATION AND
 7 PHOSPHATE METABOLISM BY ASARM PEPTIDES
 10 <130> FILE REFERENCE: 21105.0011U2
 12 <140> CURRENT APPLICATION NUMBER: 10/567,938A
 C--> 13 <141> **CURRENT FILING DATE: 2006-02-09**
 15 <150> PRIOR APPLICATION NUMBER: PCT/US04/30530
 16 <151> PRIOR FILING DATE: 2004-09-20
 18 <150> PRIOR APPLICATION NUMBER: 60/504,044
 19 <151> PRIOR FILING DATE: 2003-09-19
 21 <160> NUMBER OF SEQ ID NOS: 24
 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 19
 27 <212> TYPE: PRT
 28 <213> ORGANISM: Homo sapien
 30 <400> SEQUENCE: 1
 31 Arg Asp Asp Ser Ser Glu Ser Ser Asp Ser Gly Ser Ser Ser Glu Ser
 32 1 5 10 15
 33 Asp Gly Asp
 36 <210> SEQ ID NO: 2
 37 <211> LENGTH: 18
 38 <212> TYPE: PRT
 39 <213> ORGANISM: Mus musculus
 41 <400> SEQUENCE: 2
 42 Arg Asp Ser Ser Glu Ser Ser Ser Ser Gly Ser Ser Ser Glu Ser His
 43 1 5 10 15
 44 Gly Asp
 47 <210> SEQ ID NO: 3
 48 <211> LENGTH: 18
 49 <212> TYPE: PRT
 50 <213> ORGANISM: Rattus norvegicus
 52 <400> SEQUENCE: 3
 53 Arg Asp Ser Ser Glu Ser Ser Ser Ser Gly Ser Ser Ser Glu Ser Ser
 54 1 5 10 15
 55 Gly Asp
 58 <210> SEQ ID NO: 4
 59 <211> LENGTH: 24
 60 <212> TYPE: PRT
 61 <213> ORGANISM: Homo sapien
 65 <400> SEQUENCE: 4
 66 Phe Ser Ser Arg Arg Arg Asp Asp Ser Ser Glu Ser Ser Asp Ser Gly
 67 1 5 10 15

Cp2-67

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Input Set : A:\21105001IU2.txt

Output Set: N:\CRF4\11152006\J567938A.raw

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68 Ser Ser Ser Glu Ser Asp Gly Asp
69          20
71 <210> SEQ ID NO: 5
72 <211> LENGTH: 25
73 <212> TYPE: PRT
74 <213> ORGANISM: Homo sapien
76 <400> SEQUENCE: 5
77 Cys Phe Ser Ser Arg Arg Arg Asp Asp Ser Ser Glu Ser Ser Asp Ser
78 1          5          10          15
79 Gly Ser Ser Ser Glu Ser Asp Gly Asp
80          20          25
82 <210> SEQ ID NO: 6
83 <211> LENGTH: 26
84 <212> TYPE: PRT
85 <213> ORGANISM: Homo sapien
87 <400> SEQUENCE: 6
88 Cys Gly Ser Gly Tyr Thr Asp Leu Gln Glu Arg Gly Asp Asn Asp Ile
89 1          5          10          15
90 Ser Pro Phe Ser Gly Asp Gly Gln Pro Phe
91          20          25
93 <210> SEQ ID NO: 7
94 <211> LENGTH: 5
95 <212> TYPE: PRT
96 <213> ORGANISM: Homo sapien
98 <400> SEQUENCE: 7
99 Ala Pro Thr Phe Gln
100 1          5
102 <210> SEQ ID NO: 8
103 <211> LENGTH: 5
104 <212> TYPE: PRT
105 <213> ORGANISM: Homo sapien
107 <400> SEQUENCE: 8
108 Asp Ser Glu Ser Ser
109 1          5
111 <210> SEQ ID NO: 9
112 <211> LENGTH: 5
113 <212> TYPE: PRT
114 <213> ORGANISM: Homo sapien
116 <400> SEQUENCE: 9
117 Ser Ser Ser Glu Ser
118 1          5
120 <210> SEQ ID NO: 10
121 <211> LENGTH: 15
122 <212> TYPE: PRT
123 <213> ORGANISM: Homo sapien
127 <400> SEQUENCE: 10
128 Ala Pro Thr Phe Gln Pro Gln Thr Glu Lys Thr Lys Gln Ser Cys
129 1          5          10          15
131 <210> SEQ ID NO: 11

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132 <211> LENGTH: 19
133 <212> TYPE: PRT
134 <213> ORGANISM: Homo sapien
136 <400> SEQUENCE: 11
137 Thr Asp Leu Gln Glu Arg Gly Asp Asn Asp Ile Ser Pro Phe Ser Gly
138 1 5 10 15
139 Asp Gly Gln
142 <210> SEQ ID NO: 12
143 <211> LENGTH: 19
144 <212> TYPE: PRT
145 <213> ORGANISM: Homo sapien
147 <400> SEQUENCE: 12
148 Gly Arg Gln Pro His Ser Asn Arg Arg Phe Ser Ser Arg Arg Arg Asp
149 1 5 10 15
150 Asp Ser Ser
153 <210> SEQ ID NO: 13
154 <211> LENGTH: 18
155 <212> TYPE: PRT
156 <213> ORGANISM: Homo sapien
158 <400> SEQUENCE: 13
159 Asp Asp Ser Ser Glu Ser Ser Asp Ser Gly Ser Ser Ser Glu Ser Asp
160 1 5 10 15
161 Gly Asp
164 <210> SEQ ID NO: 14
165 <211> LENGTH: 19
166 <212> TYPE: PRT
167 <213> ORGANISM: Homo sapien
169 <220> FEATURE:
170 <221> NAME/KEY: VARIANT
171 <222> LOCATION: 12, 14, 16
172 <223> OTHER INFORMATION: Xaa = a phosphorylated serine
174 <400> SEQUENCE: 14
W--> 175 Arg Asp Asp Ser Ser Glu Ser Ser Asp Ser Gly Xaa Ser Xaa Glu Xaa
176 1 5 10 15
177 Asp Gly Asp
180 <210> SEQ ID NO: 15
181 <211> LENGTH: 25
182 <212> TYPE: PRT
183 <213> ORGANISM: Homo sapien
187 <400> SEQUENCE: 15
188 Gly Ser Gly Tyr Thr Asp Leu Gln Glu Arg Gly Asp Asn Asp Ile Ser
189 1 5 10 15
190 Pro Phe Ser Gly Asp Gly Gln Pro Phe
191 20 25
193 <210> SEQ ID NO: 16
194 <211> LENGTH: 19
195 <212> TYPE: PRT
196 <213> ORGANISM: Macaca fascicularis
198 <400> SEQUENCE: 16

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199 Arg Glu Asp Ser Ser Glu Ser Ser Asp Ser Gly Ser Ser Ser Glu Ser
200 1 5 10 15
201 Asp Gly Asp
204 <210> SEQ ID NO: 17
205 <211> LENGTH: 525
206 <212> TYPE: PRT
207 <213> ORGANISM: Homo sapien
209 <400> SEQUENCE: 17
210 Met Arg Val Phe Cys Val Gly Leu Leu Leu Phe Ser Val Thr Trp Ala
211 1 5 10 15
212 Ala Pro Thr Phe Gln Pro Gln Thr Glu Lys Thr Lys Gln Ser Cys Val
213 20 25 30
214 Glu Glu Gln Arg Gln Glu Glu Lys Asn Lys Asp Asn Ile Gly Phe His
215 35 40 45
216 His Leu Gly Lys Arg Ile Asn Gln Glu Leu Ser Ser Lys Glu Asn Ile
217 50 55 60
218 Val Gln Glu Arg Lys Lys Asp Leu Ser Leu Ser Glu Ala Ser Glu Asn
219 65 70 75 80
220 Lys Gly Ser Ser Lys Ser Gln Asn Tyr Phe Thr Asn Arg Gln Arg Leu
221 85 90 95
222 Asn Lys Glu Tyr Ser Ile Ser Asn Lys Glu Asn Thr His Asn Gly Leu
223 100 105 110
224 Arg Met Ser Ile Tyr Pro Lys Ser Thr Gly Asn Lys Gly Phe Glu Asp
225 115 120 125
226 Gly Asp Asp Ala Ile Ser Lys Leu His Asp Gln Glu Glu Tyr Gly Ala
227 130 135 140
228 Ala Leu Ile Arg Asn Asn Met Gln His Ile Met Gly Pro Val Thr Ala
229 145 150 155 160
230 Ile Lys Leu Leu Gly Glu Glu Asn Lys Glu Asn Thr Pro Arg Asn Val
231 165 170 175
232 Leu Asn Ile Ile Pro Ala Ser Met Asn Tyr Ala Lys Ala His Ser Lys
233 180 185 190
234 Asp Lys Lys Lys Pro Gln Arg Asp Ser Gln Ala Gln Lys Ser Pro Val
235 195 200 205
236 Lys Ser Lys Ser Thr His Arg Ile Gln His Asn Ile Asp Tyr Leu Lys
237 210 215 220
238 His Leu Ser Lys Val Lys Lys Ile Pro Ser Asp Phe Glu Gly Ser Gly
239 225 230 235 240
240 Tyr Thr Asp Leu Gln Glu Arg Gly Asp Asn Asp Ile Ser Pro Phe Ser
241 245 250 255
242 Gly Asp Gly Gln Pro Phe Lys Asp Ile Pro Gly Lys Gly Glu Ala Thr
243 260 265 270
244 Gly Pro Asp Leu Glu Gly Lys Asp Ile Gln Thr Gly Phe Ala Gly Pro
245 275 280 285
246 Ser Glu Ala Glu Ser Thr His Leu Asp Thr Lys Lys Pro Gly Tyr Asn
247 290 295 300
248 Glu Ile Pro Glu Arg Glu Glu Asn Gly Gly Asn Thr Ile Gly Thr Arg
249 305 310 315 320
250 Asp Glu Thr Ala Lys Glu Ala Asp Ala Val Asp Val Ser Leu Val Glu

```

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```

251          325          330          335
252 Gly Ser Asn Asp Ile Met Gly Ser Thr Asn Phe Lys Glu Leu Pro Gly
253          340          345          350
254 Arg Glu Gly Asn Arg Val Asp Ala Gly Ser Gln Asn Ala His Gln Gly
255          355          360          365
256 Lys Val Glu Phe His Tyr Pro Pro Ala Pro Ser Lys Glu Lys Arg Lys
257          370          375          380
258 Glu Gly Ser Ser Asp Ala Ala Glu Ser Thr Asn Tyr Asn Glu Ile Pro
259 385          390          395          400
260 Lys Asn Gly Lys Gly Ser Thr Arg Lys Gly Val Asp His Ser Asn Arg
261          405          410          415
262 Asn Gln Ala Thr Leu Asn Glu Lys Gln Arg Phe Pro Ser Lys Gly Lys
263          420          425          430
264 Ser Gln Gly Leu Pro Ile Pro Ser Arg Gly Leu Asp Asn Glu Ile Lys
265          435          440          445
266 Asn Glu Met Asp Ser Phe Asn Gly Pro Ser His Glu Asn Ile Ile Thr
267          450          455          460
268 His Gly Arg Lys Tyr His Tyr Val Pro His Arg Gln Asn Asn Ser Thr
269 465          470          475          480
270 Arg Asn Lys Gly Met Pro Gln Gly Lys Gly Ser Trp Gly Arg Gln Pro
271          485          490          495
272 His Ser Asn Arg Arg Phe Ser Ser Arg Arg Arg Asp Asp Ser Ser Glu
273          500          505          510
274 Ser Ser Asp Ser Gly Ser Ser Ser Glu Ser Asp Gly Asp
275          515          520          525
277 <210> SEQ ID NO: 18
278 <211> LENGTH: 433
279 <212> TYPE: PRT
280 <213> ORGANISM: Mus musculus
282 <400> SEQUENCE: 18
283 Met Gln Ala Val Ser Val Gly Leu Leu Leu Phe Ser Met Thr Trp Ala
284 1          5          10          15
285 Ala Pro Met Pro Asn Glu Asp Arg Ser Ser Cys Gly Asn Gln Asp Ser
286          20          25          30
287 Ile His Lys Asp Leu Ala Ala Ser Val Tyr Pro Asp Pro Thr Val Asp
288          35          40          45
289 Glu Gly Thr Glu Asp Gly Gln Gly Ala Leu Leu His Pro Pro Gly Gln
290          50          55          60
291 Asp Arg Tyr Gly Ala Ala Leu Leu Arg Asn Ile Thr Gln Pro Val Lys
292 65          70          75          80
293 Ser Leu Val Thr Gly Ala Glu Leu Arg Arg Glu Gly Asn Gln Glu Lys
294          85          90          95
295 Arg Pro Gln Ser Val Leu Ser Val Ile Pro Ala Asp Val Asn Asp Ala
296          100          105          110
297 Lys Val Ser Leu Lys Asp Ile Lys Asn Gln Glu Ser Tyr Leu Leu Thr
298          115          120          125
299 Gln Ser Ser Pro Val Lys Ser Lys His Thr Lys His Thr Arg Gln Thr
300          130          135          140
301 Arg Arg Ser Thr His Tyr Leu Thr His Leu Pro Gln Ile Lys Lys Thr

```

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:14; Xaa Pos. 12,14,16
Seq#:21; Xaa Pos. 1,2,3,4,6,11,13,14,15,16,17,19,20,21,22,29,30,80,92,93,94
Seq#:21; Xaa Pos. 95,96,97,98,99,106,107,110,111,112,114,115,116,117
Seq#:22; Xaa Pos. 1,6,8,9,10,11,12
Seq#:23; Xaa Pos. 7,8,11
Seq#:24; Xaa Pos. 46

VERIFICATION SUMMARY

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Input Set : A:\211050011U2.txt

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L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:175 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:562 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
M:341 Repeated in SeqNo=21
L:617 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:636 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:656 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:32